

Field Arrival Trials

What are Field Arrival Trials?

A pre-defined programme of tests and checks to be performed prior to the entry into the area of operation that are designed to confirm the performance of the DP system and can validate and verify the configuration of the system for the immediate activity.

These tests and checks should be carried out on arrival at the field and conducted outside the 500-metre safety zone. The checks should be repeated when the vessel returns to the field after an absence of more than 24 hours.

Why Carryout Field Arrival Trials?

It is apparent from the IMCA DP Event reporting scheme that there are a number of events that could have been avoided if a set of well-defined field arrival trials had been carried out, examples of this are, freezing of operator stations, machinery not reaching its designed capability, unintended cross connections left in place, etc.

Objective

The objective of these checks is to ensure satisfactory operation of the DP system. The functional tests and checks should include thruster operation, power generation, auto DP, IJS, and manual thruster controls. The tests and checks should also ensure that the DP system is correctly configured in accordance with the DP operations manual and the associated engine room and bridge checklists.

How do the Tests Apply to Vessel Types?

Often with field arrival trials the main issue is the frequency of entry, a MODU for instance may enter one to two times in a 12-month period whereas a typical PSV will have a high frequency of field entry and exit per year.

IMCA M 103 States – *‘The checks should be repeated when the vessel returns to the field after an absence of more than 24 hours.’*

When a vessel such as a MODU enters the field, it may be prudent to carry out a more rigorous set of tests.

For vessels frequently entering energy fields then tests should be focused on those items that are most critical and most likely to fail and tests that give the most amount of information about the state of the DP system for least effort and time.

What Should be Tested/Checked and Why

- **Configuration/Location Checklist** – It is critical that the vessel configuration is verified as configurations can change during periods of transit. Many station keeping events reported to IMCA can be traced back to errors in power & DP systems configuration set-up, where if they had been checked prior to entering the field could have been avoided. The configuration should match the analysis of the vessels FMEA and the ASOG.
- **Generator and Thruster Testing** – Sufficient tests to ensure that equipment is operating as intended and be able to reach their rated capability.
- **UPS Load Function Test** – UPS is operating as intended and set up correctly. UPS function testing (i.e., taking load for 30 minutes) will have been completed at annual trials and/or as part of planned maintenance system.

IMCA store terms and conditions (<https://www.imca-int.com/legal-notices/terms/>) apply to all downloads from IMCA's website, including this document.

IMCA makes every effort to ensure the accuracy and reliability of the data contained in the documents it publishes, but IMCA shall not be liable for any guidance and/or recommendation and/or statement herein contained. The information contained in this document does not fulfil or replace any individual's or Member's legal, regulatory or other duties or obligations in respect of their operations. Individuals and Members remain solely responsible for the safe, lawful and proper conduct of their operations.

- **DP Controller Change-over** – To verify that transfer of control does not affect the position and heading keeping ability of the vessel. This should preferably be carried out whilst the vessel is making a position change.
- **Operator Station Change-over** – To verify that transfer of control does not affect the position and heading keeping ability of the vessel.
- **Independent Joystick** – To ensure the control station is set up correctly and in the optimum location. All operators can competently take control of the IJS and manoeuvre the vessel. A practise regime for the IJS should already exist to ensure that all operators are capable of switching to and configuring the IJS for immediate use.
- **Thruster Manual Lever Check** – Function test the changeover to manual and levers. All operators are able to competently take control of the manual lever control and manoeuvre the vessel.
- **Backup DP Control** – If one or more remote operator terminals exist, they should remain connected, ready for use and frequently tested. Switching between main and back-up DP control station should be part of the field arrival check list.
- **E-Stops from Bridge** – Function test the (thruster) e-stops from the bridge, the stops should be located close to the operator.
- **Testing of PRS'S Selected (where possible)** – The vessel can conduct a rotation check to observe any unacceptable divergence of the available position reference systems and that they are not rejected. Blind spots in communications satellite links (providing differential corrections) are also confirmed and recorded.
- **DP Model Test** – When the vessel has been stable on DP under the control of the main DP system for thirty minutes (or reduced where considered not to have detrimental effect on the DP model), all position references are deselected from the main DP system and the mathematical model test is conducted. Position deviation over a period of 5 minutes to be logged, by observing the DGNSS systems. Critical alarms noted. This can be carried out on a similar heading that the vessel will be working in the upcoming DP Operations.
- **Communications** – All communications methods should be tested between all control and mission control stations, including back up communications. Test of DP Alert status where applicable.
- **Mode Changes** – Testing the various functionality of the DP system, in particular that which is relevant to the industrial mission.
- **Reset of Controllers and Operator Stations** – It's natural for a computer to start running more slowly if it has been left on for a long time and restarting it will usually speed things up and help fix potential emerging issues. A reboot will reset the software and flush the computer memory.

For more information, please contact Richard.Purser@imca-int.com.

Related Guidance

- [IMCA M 103](#) – *Guidelines for the Design and Operation of Dynamically Positioned Vessels*;
- [IMCA M 190](#) – *Guidance for Developing and Conducting DP Annual Trials Programmes*;
- [IMCA M 225](#) – *Example Redundancy Concept and Annual DP Trials for Vessels of IMO Class 2 & 3*.